

J. H. WERTZ & F. POMERNACKI.

BARBER'S CHAIR.

APPLICATION FILED APR. 4, 1911.

1,027,364.

Patented May 21, 1912.

2 SHEETS-SHEET 1.

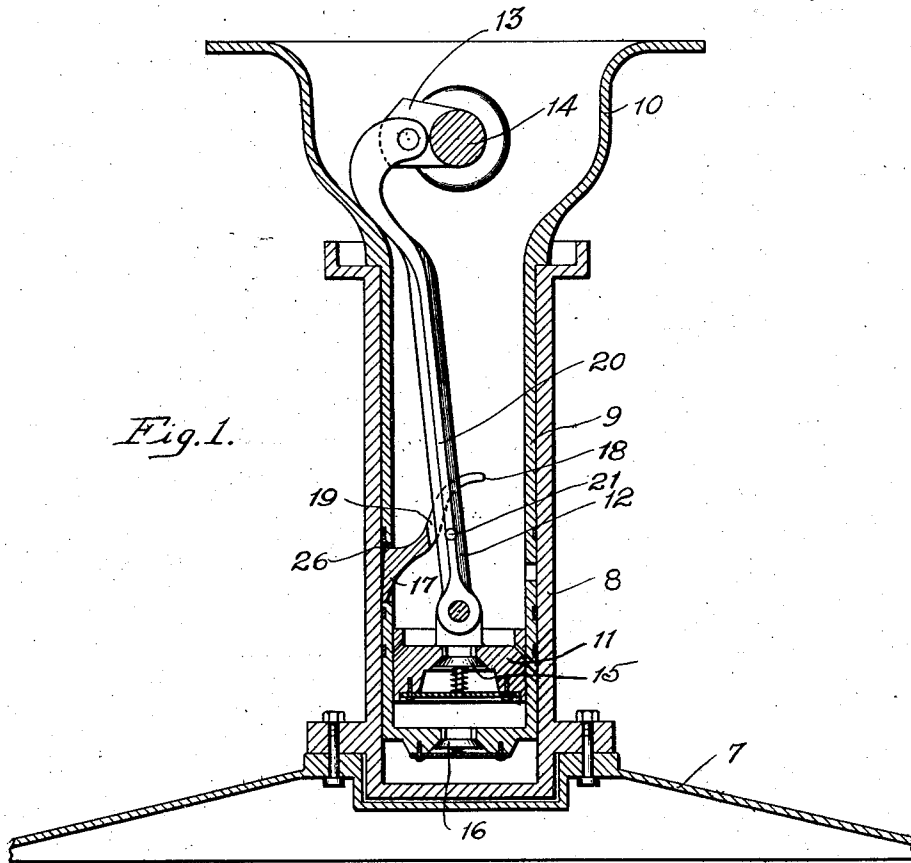


Fig. 1.

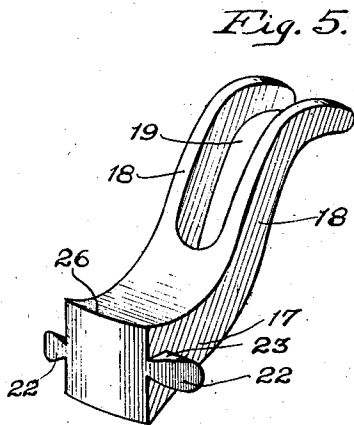


Fig. 5.

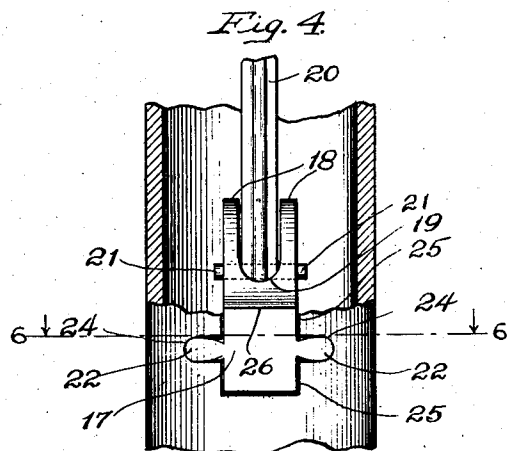


Fig. 4.

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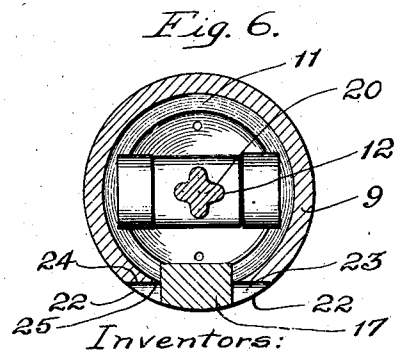
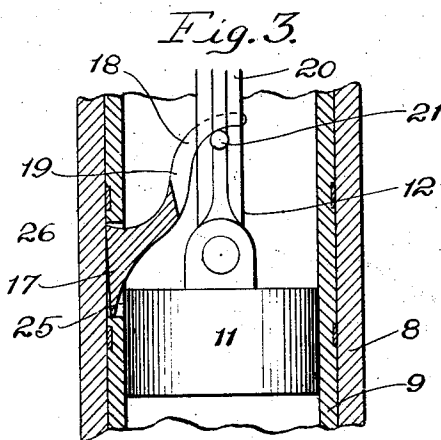
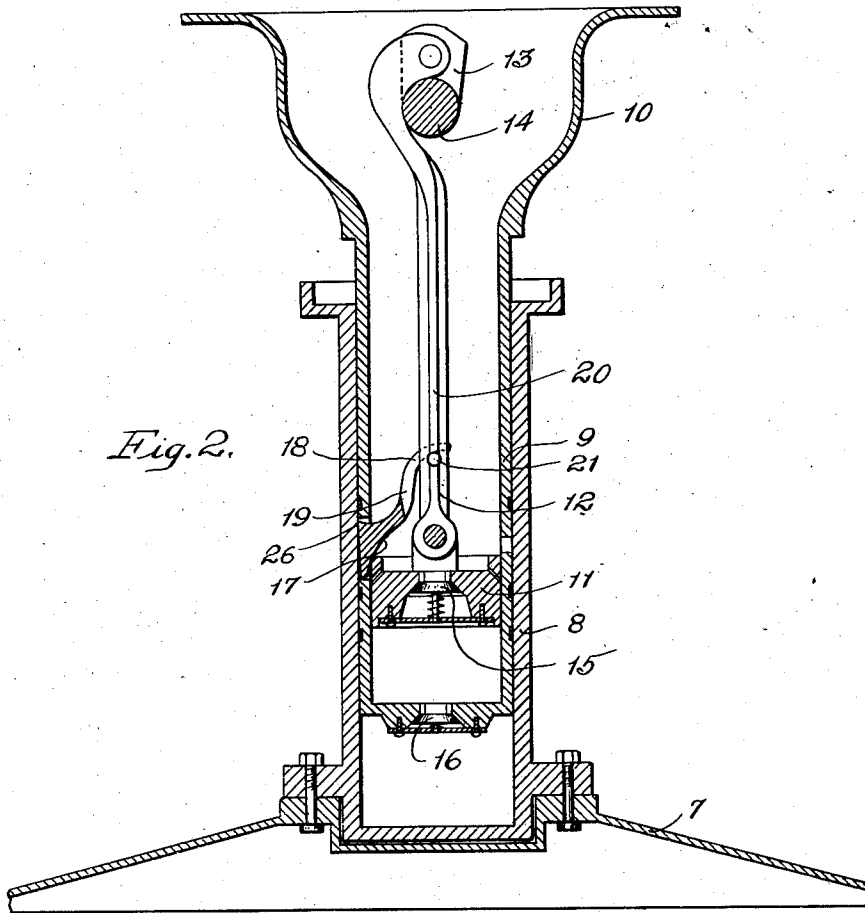
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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BARBER'S CHAIR.

1,027,364.

Specification of Letters Patent.

Patented May 21, 1912.

Application filed April 4, 1911. Serial No. 618,832.

To all whom it may concern:

Be it known that we, JOSEPH H. WERTZ, a citizen of the United States, and FRANK POMERNACKI, a subject of the Emperor of Russia, both residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Barbers' Chairs, of which the following is a specification.

10 The present invention relates more particularly to the locking member used for locking the chair against rotative movement.

The primary object of the invention is to provide a locking member which can be made operative at any time desired during the raising and lowering of the chair body.

Another object of the invention is to provide a locking member which will be operated with a canting movement, thus throwing a portion of it into a biting engagement with a fixed surface to effect the locking operation.

A further object of the invention is to provide a locking member which will normally be held by gravity out of locking position. And a still further object of the invention is to perform this canting operation by a greater than normal movement of a portion of the pump mechanism.

This invention further relates to the features of construction and to the combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a sectional view of the base of a barber's chair, showing the pump mechanism and the locking mechanism of the present invention placed therein, and showing the locking mechanism in normal or non-acting position; Fig. 2, a view similar to Fig. 1, showing the locking mechanism in its acting position; Fig. 3, an enlarged sectional detail, showing the locking mechanism in its acting position; Fig. 4, a detail elevation of the locking member and piston, and showing the members on the pitman which engage the locking member to effect the locking operation; Fig. 5, a perspective of the locking member of the present invention; and Fig. 6, a section on line 6—6 of Fig. 4, looking in the direction of the arrow.

The lock of the present invention is ap-

plied to that type of chair commonly termed "hydraulic," and is of the same general character and nature as the chair embodied in Letters Patent No. 968,404, issued August 23, 1910, to Charles Pfanschmidt and Arthur Schwarzkopf. The pump mechanism and the base portion of the type of chair shown in the drawings form no portion of the present invention and are merely shown for illustrative purposes, so it is not deemed necessary to describe these parts in detail.

The base portion 7 is attached to a cylinder 8 by any suitable fastening means, and the cylinder 8 incloses a piston 9, which terminates in an enlarged hollow head 10, to which is secured the seat of the chair. The piston 9 has therein a plunger 11, to which is connected a pitman 12 fastened to a crank arm 13 mounted upon a shaft 14. The plunger is provided with a check valve 15, and the piston is provided with a check valve 16. The construction and method of operation of these parts are not deemed to have any bearing on the present invention any more than the manner in which they may be formed to receive and actuate the locking means set forth in the annexed claims; and, moreover, these parts are generally described in the Letters Patent to Pfanschmidt and Schwarzkopf heretofore mentioned.

The locking mechanism which constitutes the present invention consists of a body portion 17, from which extend companion arms 18 spaced away from one another. The slot 19 intermediate the arms 18 is of a size to permit the entrance therebetween of the stem 20 of the pitman 12. This construction may be described as a locking member with a bifurcated end which provides arms adapted to lie upon opposite sides of the stem of the pitman. It will be noted that the arms 18 are, as shown, curvilinear in formation, and that they overlies oppositely extending pins or contacts 21 formed on the stem 20 of the pitman.

The body portion 17 of the locking member is provided with oppositely extending lugs 22, which, as shown, are provided with a curved surface 23. These lugs are seated within recesses 24 formed in the side wall of the piston, and the recesses are of a curved

formation, corresponding to the curvature of the surface 23 of the lugs. Thus, a smooth and easy bearing for the locking member is provided within the walls of the piston.

5 The recesses 24 communicate with an opening 25 in the side wall of the piston, and through this opening projects the body portion of the locking member.

By referring to Fig. 6, it will be seen that 10 the outer face of the body portion of the locking member is formed with a curvature corresponding to the curvature of the outer face of the piston, so that when the locking device is in normal position, it will, to all 15 intents and purposes, be a portion of the outer face of the piston, and will not in any way interfere with the up and down movements of the piston.

The operation of the device is as follows: 20 When it is desired to raise or lower the chair, the shaft 14 is actuated by a suitable handle (not shown), and the crank arm 13 is swung to operate the pitman 12, to raise or lower the plunger 11, whereby, through 25 the operation of the check valves, fluid is either forced under or exhausted from beneath the piston and the piston raised or lowered, resulting in the raising or lowering of the chair seat. This pumping operation 30 is old and well known in the art and is fully and clearly described in the Pfanschmidt and Schwarzkopf patent heretofore referred to.

The operation of the locking mechanism, 35 which forms the feature of the present invention, is as follows: When the stem 20 of the pitman is raised a greater degree than is necessary to perform the pumping operation, the pins 21 on the pitman stem 40 engage with the curvilinear arms 18 and tilt or cant the body portion of the locking member around the center of the recesses 24, the lugs 22 turning in said recesses, as will be obvious. This throws the upper 45 outer end 26 of the body portion of the locking member into a biting engagement with the wall of the cylinder, which is a fixed surface with respect to the raising and lowering of the chair body; and thus, by forming 50 a biting engagement with the said fixed surface, the locking member prevents rotary movement of the piston within the cylinder, and hence prevents rotary movement of the chair body.

55 It will, of course, be understood that the biting engagement referred to is not of a sufficiently strong nature to embed the edge of the locking member into the wall of the cylinder, so that said wall would become 60 flaked or mutilated; but is rather intended to convey the idea of a surface impinging against the side of the cylinder by reason of a canting movement imparted to the locking member.

It will be noted that in the present construction the locking member is actuated 65 solely by the stem of the pitman, and that the shape or nature of the plunger does not enter into the construction at all; and, in fact, were it possible to make the pump 70 without a plunger, the locking mechanism would be operated equally as well without the use of a plunger, all that is necessary to operate the lock being a pitman, a piston, 75 and a cylinder.

By providing the locking member with the arms 18, a weight is afforded, which tends normally to hold the upper edge 26 80 of the locking member out of engagement with the wall of the cylinder, so that the locking member is held in non-operative position by the action of gravity alone, thus 85 insuring against the incidental locking of the chair during the operation of the pumping mechanism, the only means by which the locking can be effected being the throwing 90 of the lever in a position greater than required to perform the pumping operation. In the barber chair art, it has been customary to perform the locking operation when 95 the lever is in a substantially vertical position.

From a study of the drawings, it will be seen that at all times, save when the contact 100 on the pitman stem is engaging the arms 18, the locking member will be free to rock within its bearings. The engagement of the outer face of the locking member, therefore, with the sides of the casing during the up and down movements of the chair will tend 105 to force the upper edge 26 of the locking member away from the side of the piston and maintain it out of locking engagement. This forcing away will, of course, be assisted by the weight of the arms 18. But 110 even if the element of gravity did not enter into the operation, the movement of the piston alone would tend to keep the locking member out of locking position, save when it was canted by the movement of the pitman, so as to effect the impinging of the 115 edge 26 against the side of the cylinder. It will, of course, be seen that since the locking member is carried by the piston, the locking operation can be performed at any suitable time during the raising or lowering of the chair.

We claim:

1. In a barber's chair, the combination of pump mechanism, a fluid pressure motor 125 actuated by the pump mechanism for raising and lowering the chair, said pump mechanism including a pitman, a locking member for locking the chair against revolution, said locking member being carried 130 by a portion of said motor mechanism and actuated by direct engagement with the pitman when said pitman is raised a predeter-

mined degree whereby said locking member is thrown into oblique position and into biting engagement with a fixed surface, substantially as described.

2. In a barber's chair, the combination of pump mechanism, a fluid pressure motor actuated by the pump mechanism for raising and lowering the chair, said pump mechanism including a pitman, a rocking locking member for locking the chair against revolution, said locking member being mounted in a portion of the motor mechanism and actuated by direct engagement with the pitman when said pitman is raised a predetermined degree, substantially as described.

3. In a barber's chair, the combination of pump mechanism, a fluid pressure motor actuated by the pump mechanism for raising and lowering the chair, said pump mechanism including a pitman, a pivotally mounted locking member carried by a portion of the motor mechanism, a predetermined degree of movement of said pitman rocking said locking member about its pivotal center and throwing it into a biting engagement with a fixed surface whereby the chair is locked against rotative movement, substantially as described.

4. In a barber's chair, the combination of a cylinder, a piston within the cylinder, a locking member mounted within the wall of said piston to have a rocking movement, said wall having an opening through which said locking member projects, and means for canting the locking member to throw it into a biting engagement with the walls of the cylinder, substantially as described.

5. In a barber's chair, the combination of a cylinder, a piston within the cylinder, a locking member mounted within the wall of said piston to have a rocking movement, said wall having an opening through which said piston projects, and means for canting the locking member to throw it into a biting engagement with the walls of the cylinder, said locking member being held out of canted position by gravity, substantially as described.

6. In a barber's chair, the combination of a cylinder, a piston within the cylinder, a pump piston, a pitman directly connected thereto, a locking member mounted in said first mentioned piston, a contact on the pitman adapted to engage the locking member, whereby upon a predetermined movement of the pitman the locking member is canted and thrown into a biting engagement with the walls of the cylinder, substantially as described.

7. In a barber's chair, the combination of a cylinder, a piston within the cylinder, a pump piston, a pitman connected thereto, a locking member mounted in said first men-

tioned piston to have a rocking movement, a contact on the pitman adapted to engage and rock the locking member, whereby the locking member is canted and thrown into a biting engagement with the walls of the cylinder, substantially as described.

8. In a barber's chair, the combination of a cylinder, a piston within the cylinder, a pump piston, a pitman directly connected thereto, a locking member mounted in said first mentioned piston, an arm extending from the locking member, a contact on the pitman adapted to engage said arm when said pitman is moved a predetermined degree, whereby said locking member is canted and thrown into a biting engagement with the walls of said cylinder, substantially as described.

9. In a barber's chair, the combination of a cylinder, a fluid pressure motor within the cylinder, including a piston and pitman, a locking member mounted in said piston and terminating in a bifurcated end adapted to embrace said pitman, and contacts on said pitman adapted to engage said bifurcated end when the pitman is moved a predetermined distance, whereby the locking member is canted and thrown into a biting engagement with said cylinder, substantially as described.

10. In a barber's chair, the combination of a cylinder, a fluid pressure motor within the cylinder, including a piston and pitman, a locking member mounted in said piston and terminating in a bifurcated end adapted to embrace said pitman, and contacts on said pitman adapted to engage said bifurcated end when the pitman is moved a predetermined distance, whereby the locking member is canted and thrown into a biting engagement with said cylinder, said locking member being held normally out of canted position by the weight of said end, substantially as described.

11. In a barber's chair, the combination of a cylinder, a piston within the cylinder, a pump piston, a pitman connected thereto, a locking member carried by the first mentioned piston, oppositely extending curved lugs on the locking member, said piston having curved recesses adapted to receive said lugs, means for effecting an engagement between said pitman and locking member, a predetermined degree of movement of said pitman rocking said locking member about said lugs as a pivotal center, whereby it is canted and thrown into a biting engagement with the wall of said cylinder, substantially as described.

12. In a barber's chair, the combination of a cylinder, a piston within said cylinder, a pump piston, a pitman connected to said piston, a locking member, oppositely extending curved lugs on the locking member,

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said piston having curved recesses adapted to receive said lugs, means for effecting an engagement between said pitman and locking member, a predetermined degree of movement of said pitman rocking said locking member, whereby it is canted and thrown into a biting engagement with the wall of said cylinder, said locking member

being normally held out of canted position, substantially as described.

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